AMENDMENT TO THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

LISTING OF CLAIMS

1. (Currently Amended) A method of producing an optical fiber preform, comprising a deposition step of depositing a glass layer in a silica glass pipe by charging a gas containing at least a glass raw material into the silica glass pipe while the silica glass pipe is heated from the outside by a heat source relatively moving in the longitudinal direction of the silica glass pipe,

wherein in the deposition step, ~~one or more each of an~~ at least one exhaust portion [[and]] together with another exhaust portion or a buffering gas inlet portion are connected to the silica glass pipe, and at least the amount of the exhaust gas from the exhaust portion or the amount of the buffering gas introduced in the buffering gas inlet portion is feedback-controlled, and at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is pattern-controlled according to a flow rate pattern corresponding to heating positions on the silica glass pipe, and

wherein in the deposition step, the feedback-control is performed such that the internal pressure of the silica glass pipe is measured and at least one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is controlled so that the measured internal pressure coincides with a targeted value which is set for each heating position.

2-3. (Cancelled)

4. (Currently Amended) A method of producing an optical fiber preform according to claim [[3]] 1,

wherein in the deposition step, a dimension of the silica glass pipe is measured near each heating position and a ~~preferable~~ value of the internal pressure of the silica glass pipe ~~necessary for conforming~~ to make the measured dimension to become a predetermined targeted [[value]] pipe dimension is calculated as the targeted value and the internal pressure of the silica glass pipe is controlled so as to coincide with the calculated ~~preferable~~ value.

5. (Currently Amended) A method of producing an optical fiber preform according to claim [[3]] 1,

wherein in the deposition step, the dimension of the silica glass pipe is at least one of the outer diameter, the inner diameter, and the wall thickness of the silica glass pipe.

6. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, the deposition rate of the glass layer is 0.5 g/min or more.

7. (Currently Amended) A method of producing an optical fiber preform according to claim [[2]] 1,

wherein in the deposition step, the ratio of the maximum to the minimum in a control range of the internal pressure of the silica glass pipe is 2 times or more.

8. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, a fluctuation of the outer diameter in the longitudinal direction of the silica glass pipe after deposition of the glass layer is ±1 mm or less.

9. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, a rate of change in the internal pressure of the silica glass pipe is -50 Pa to +50 Pa per second.

10. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, the duration time of the internal pressure of the silica glass pipe at +20 Pa or less is less than 2 seconds.

11. (Withdrawn) An apparatus for producing an optical fiber preform, comprising:

a gas supply system for introducing a gas containing at least a glass raw material into a silica glass pipe from one of the ends thereof;

two or more in total of an exhaust portion and a buffering gas inlet portion, all of which can be connected to the other end of the silica glass pipe;

a heat source which can move relatively in the longitudinal direction of the silica glass pipe;

a position detecting means for detecting a heating position of the heat source on the silica glass pipe;

a first control means for controlling, according to a flow rate pattern corresponding to the heating positions, at least the amount of the exhaust gas from the exhaust portion or the amount of the gas introduced into the buffering gas inlet portion; and

a second control means for feedback-controlling at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the gas introduced into the buffering gas inlet portion.

12. (Withdrawn) An apparatus according to claim 11 for producing an optical fiber preform, further comprising a pressure measuring means for measuring the internal pressure of the silica glass pipe;

wherein the second control means feedback-controls at least the amount of the exhaust gas from the exhaust portion or the amount of the gas introduced into the buffering gas inlet portion so that the internal pressure of the silica glass pipe may coincide with a targeted value set for each heating position.

13. (Withdrawn/Previously Presented) An apparatus according to claim 11 for producing an optical fiber preform, further comprising a dimension measuring means for measuring the dimension of the silica glass pipe near each heating position of the heat source;

wherein the second control means feedback-controls at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the gas introduced into the buffering gas inlet portion so that the dimension of the silica glass pipe measured by the

dimension measuring means may coincide with a predetermined targeted dimension of the pipe.

14. (New) A method of producing an optical fiber preform according to claim 1, wherein the flow rate pattern is obtained based on a predetermined calculation pattern and position information of the heating position on the silica glass pipe obtained from a position determining unit.